NOAA TECHNICAL MEMORANDUM NWSTM PR-43

1996 TROPICAL CYCLONES - CENTRAL NORTH PACIFIC

HONOLULU, HI
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INTRODUCTION

During the 1996 Central Pacific tropical cyclone season, only two tropical depressions were observed. This was similar to the 1995 season in which only one tropical storm was detected. In both seasons, sea surface temperatures were lower than normal along the Equator south and southeast of the Hawaiian Islands.

The season began with Tropical Depression Seventeen-W from August 13-14 and ended with Tropical Depression One-C from September 16-20.

TROPICAL DEPRESSION SEVENTEEN-W
AUGUST 13 - AUGUST 14, 1996

Tropical Depression Seventeen-W formed in the Northwest Pacific on the afternoon of August 13 (Hawaiian Standard Time) near 30.2N 177.9E or approximately 270 nautical miles northwest of Midway Island. It formed in the vicinity of a cutoff low pressure area near this position. A large blocking high pressure area was located over the Central North Pacific. The depression moved toward the east and crossed into the Central Pacific Hurricane Center's area of responsibility on August 14. The Central Pacific Hurricane Center's first advisory was issued at 11 AM HST.

The depression continued east and came within 90 miles of Midway Island and soon dissipated. The final advisory was issued on the afternoon of August 14. Gusty winds and showers were reported in the vicinity of Midway Island and Kure Atoll for several days. The automatic remote collector at Midway Island reported a peak wind of 35 knots and approximately two and a half inches of rain.

The following is the track data for Tropical Depression Seventeen-W. Included are the maximum sustained wind values for each period.

DATE/TIME(Z)	LATITUDE (N)	LONGITUDE	MAX WINDS (KT)
08/14/0000	30.2	177.9E	30
1200	29.7	179.4W	25
1800	29.3	178.6W	25
08/15/0000	29.3	178.3W	25

TROPICAL DEPRESSION ONE-C
SEPTEMBER 15 - SEPTEMBER 20, 1996

HISTORY. Tropical Depression One-C began as a tropical disturbance near 10N 140W on September 14, 1996. Located near 13N 143W, it was classified as a tropical depression on September 15, 1996. The Central Pacific Hurricane Center (CPHC) wrote its last advisory for Tropical Depression One-C on September 20, 1996 when it was located near 16N 163W.

Until September 15, 1996, the disturbance moved west northwest at approximately 10 knots. From September 15-17, 1996, Tropical Depression One-C continued on a west northwest track. From September 17-19, 1996, it changed to a westerly course until September 19, 1996 when it again resumed a west northwest track. The depression was located at 16N 163W when the last advisory was written.

One-C reached its peak intensity of 30 knots on September 16, 1996. The depression maintained this intensity through the afternoon of September 19, 1996. On September 19, 1996, the depression began to weaken and the final advisory was issued on September 20, 1996.

SYNOPTIC SITUATION (September 15-20, 1996)

SURFACE. A large high pressure area with a central pressure of 1026 millibars was centered near 46N 135W with a ridge extending southwest to near 27N 162W. This system moved slowly and favored a storm motion toward the west after an initial movement toward the west northwest.

Sea surface temperatures in the vicinity of the storm were near normal (between 27 and 28 degrees Celsius).

UPPER LEVELS. At 250 millibars, winds over the Hawaiian Islands and north of the storm were from the southwest between 30 and 35 knots. The depression remained in this unfavorable shearing environment during its existence and, therefore, did not develop into a tropical storm.

SATELLITE DATA. On September 15, 1996 when CPHC first classified Tropical Depression One-C, GOES-9 satellite imagery showed low level circulation centered in the central Pacific near 13N 143W. A cumulonimbus cloud cluster was located within 100 nautical miles of the center of circulation. Until the September 19, 1996, this cumulonimbus activity continued to be associated with the low level circulation. The cumulonimbus intensity pulsed depending upon the

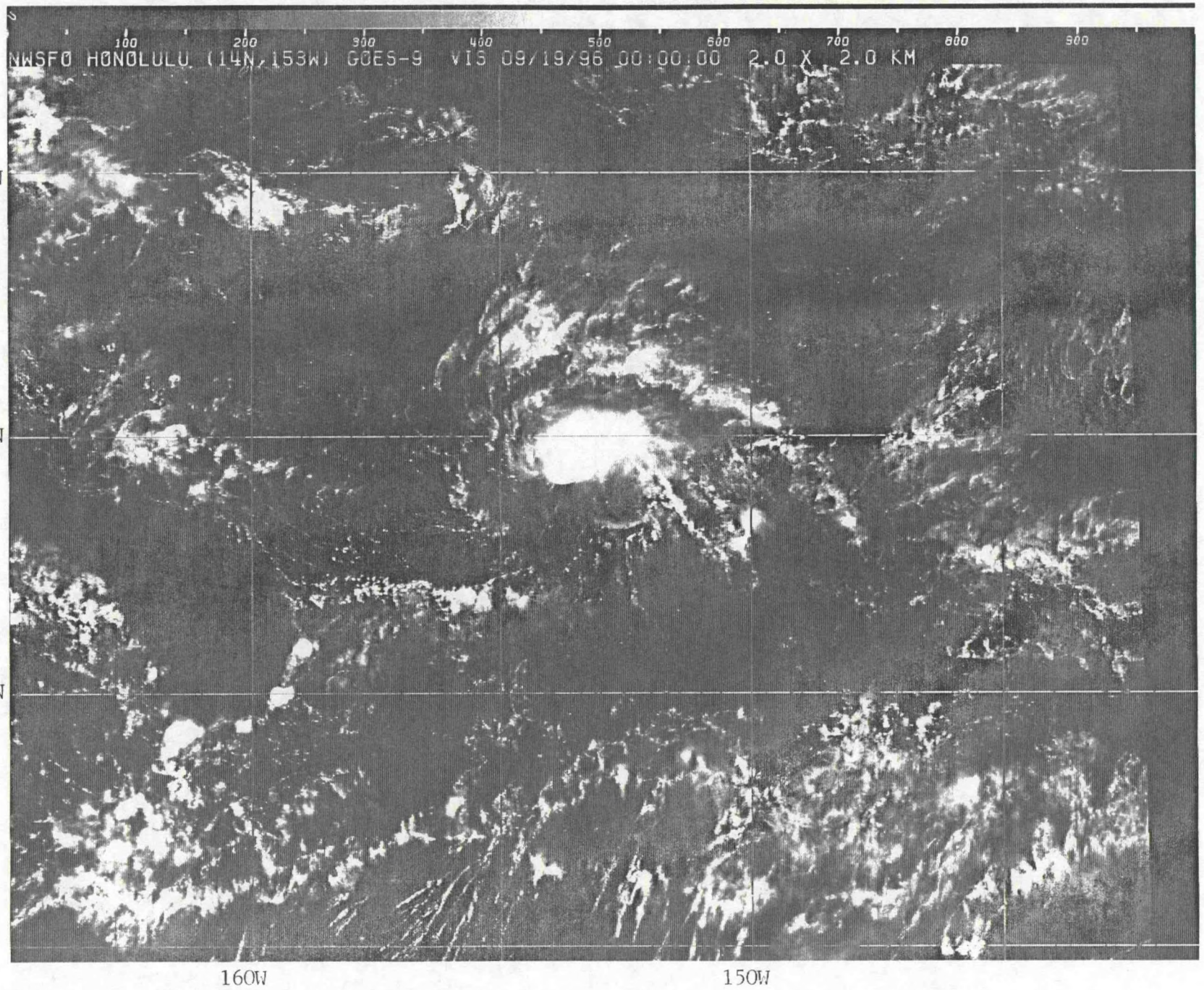
time of day and slight changes in the depression's environment. The sheared environment in which the depression existed was evident in the satellite imagery with the low clouds and center of circulation moving west or west northwest and the upper level clouds moving northeast.

VERIFICATION.

Since the two systems never became tropical storms and the sample size was small, no statistics were made.

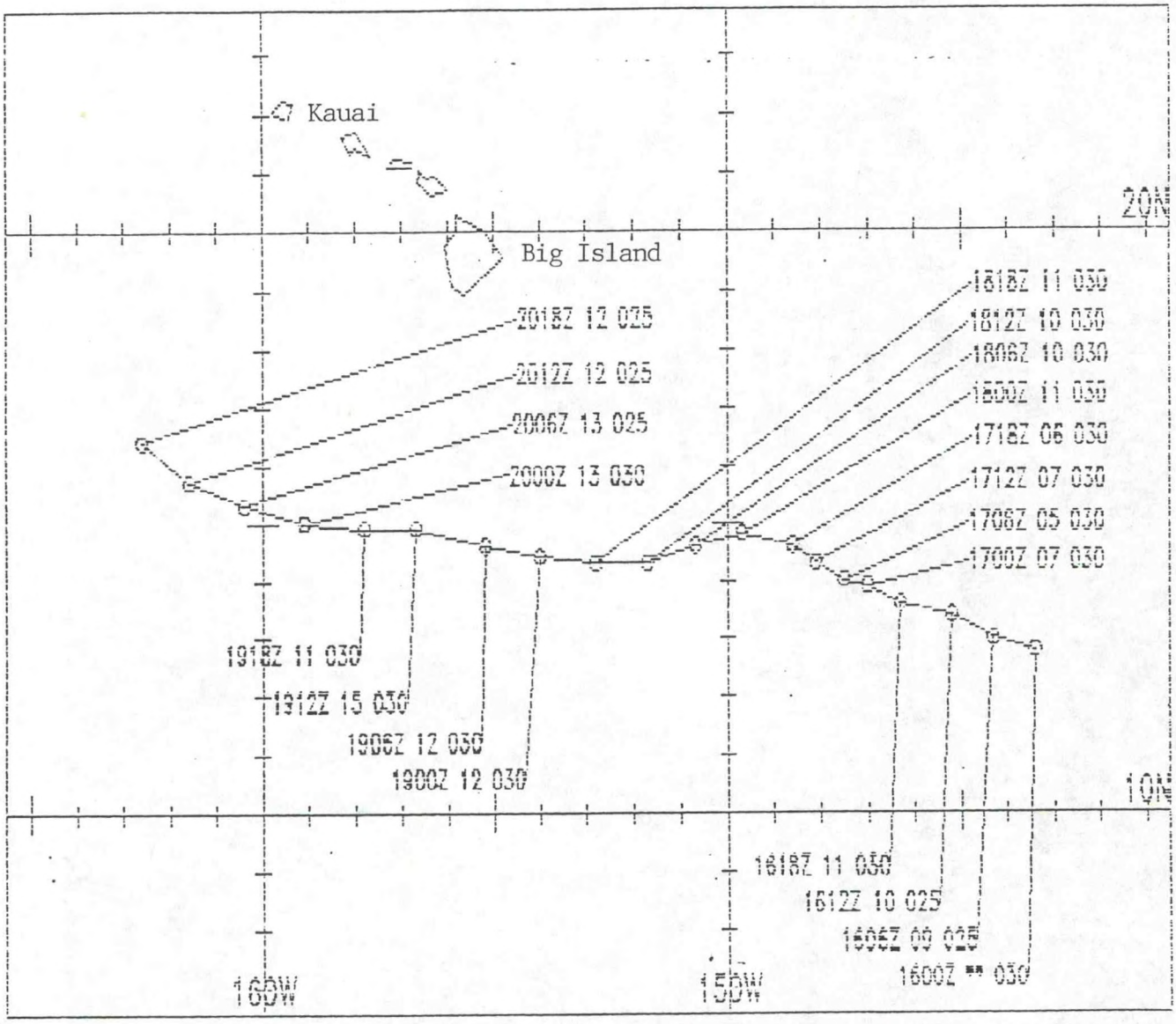
The following is the best track data for Tropical Depression One-C for each six hour synoptic time period. Included are the maximum sustained wind values for each period.

DATE/TIME(Z)	LATITUDE (N)	LONGITUDE (W)	MAX WINDS (KT)
09/16/0000	12.8	143.4	30
0600	13.0	144.3	25
1200	13.4	145.2	25
1800	13.6	146.3	30
09/17/0000	13.9	147.0	30
0600	14.0	147.5	30
1200	14.3	148.1	30
1800	14.6	148.6	30
09/18/0000	14.8	149.7	30
0600	14.6	150.7	30
1200	14.3	151.7	30
1800	14.3	152.8	30
09/19/0000	14.4	154.0	30
0600	14.6	155.2	30
1200	14.9	156.7	30
1800	14.9	157.8	30
09/20/0000	15.0	159.1	30
0600	15.3	160.4	25
1200	15.7	161.6	25
1800	16.4	162.6	25



GOES-9 SATELLITE PHOTOGRAPH OF TROPICAL DEPRESSION ONE-C NEAR 14N 154W AT 0000Z ON SEPTEMBER 19, 1996

BEST TRACK PLOT FOR TROPICAL DEPRESSION ONE-C



For positions provided, the first figure is the date and time group, followed by the speed of the system and the maximum sustained winds.

For example, the fifth position shown gives the following information: 1700Z 07 030, which is the position on September 17, 1996 at 0000Z. The system was moving at 07 knots and had sustained winds of 30 knots.

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